

CLAIMS

What is claimed is:

1. An application specific integrated circuit (ASIC) comprising:
a standard cell, the standard cell including a plurality of logic functions;
at least one bus coupled to at least a portion of the logic functions;
a plurality of internal signals from the plurality of logic functions; and
a field programmable gate array (FPGA) function coupled to the at least one bus and
the plurality of internal signals, the FPGA function including a debug client function that
observes and manipulates the at least one bus and the plurality of internal signals.
2. The ASIC of claim 1 wherein the at least one bus comprises an internal bus.
3. The ASIC of claim 2 wherein the debug client function observes and
manipulates at least one point of interest on the standard cell.
4. The ASIC of claim 1 wherein the debug client function is programmed by a
server.
5. The ASIC of claim 1 wherein the debug client function further includes:
an external communicator logic function for receiving and transmitting
information to a server;
selector logic coupled to the at least one bus and the plurality of internal signals,
and

6 an interface logic coupled between the external communicator logic and the
7 selector logic for providing communication therebetween.

1 6. The ASIC of claim 5 wherein the interface logic comprises:
2 a storage logic function for storing a state of signals of interest from the selector
3 logic and providing the state to a server;
4 a comparator logic function coupled to the storage logic function for comparing
5 the signals of interest from the selector block function; and
6 an output logic function coupled to the comparator logic function for
7 controlling the internal signals on the ASIC.

1 7. The ASIC of claim 4 wherein the server utilizes the debug client to debug
2 hardware within at least one of the plurality of logic functions.

1 8. The ASIC of claim 4 wherein the server utilizes the debug client to debug
2 software within at least one of the plurality of logic functions.

1 9. A debug client function within an application specific integrated circuit
2 (ASIC), the debug client function being within a field programmable gate array (FPGA)
3 function; the client debug function comprising::
4 an external communicator logic function for receiving and transmitting
5 information concerning a plurality of signals of the ASIC to a server;
6 selector logic coupled to the at least one bus of the ASIC and the plurality of

7 internal signals, and

8 an interface logic coupled between the external communicator logic and the
9 selector logic for providing communication therebetween.

1 10. The ASIC of claim 9 wherein the at least one bus comprises an internal bus.

1 11. The ASIC of claim 9 wherein the debug client function observes and
2 manipulates at least one point of interest on the standard cell.

1 12. The ASIC of claim 9 wherein the debug client function is programmed by a
2 server.

1 13. The ASIC of claim 9 wherein the interface logic comprises:
2 a storage logic function for storing a state of signals of interest from the selector
3 logic and providing the state to a server;
4 a comparator logic function coupled to the storage logic function for comparing
5 the signals of interest from the selector block function; and
6 an output logic function coupled to the comparator logic function for
7 controlling the internal signals on the ASIC.

1 14. The ASIC of claim 12 wherein the server utilizes the debug client to debug
2 hardware within at least one of the plurality of logic functions.

1 15. The ASIC of claim 12 wherein the server utilizes the debug client to debug
2 software within at least one of the plurality of logic functions.

Footnote